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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,990	02/21/2006	Hidetoshi Oyama	39712	1781

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EXAMINER	
KERNS, KEVIN P	

ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
03/14/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/568,990	OYAMA ET AL.	
	Examiner	Art Unit	
	Kevin P. Kerns	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 April 2006 and 22 June 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/10/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-10 and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sigl (US 5,642,260) in view of JP 6-97688 (see applicants' IDS dated May 31, 2007).

Sigl discloses an arc welding power supply housing, in which the housing of the arc welding supply apparatus 10 includes a plurality of heat radiating electrical components; front and back panels (12,14), a base 16, and a top cover 18; a pair of side walls (26,28) and top panel 30 forming a cooling wind tunnel (box body) in which a

heat radiating unit (first electrical element in the form of a power module heat sink 42, which has heat radiating fins internal to the box body, in a portion of an outer peripheral portion that defines a cavity portion) is enclosed, with the heat radiating unit 42 defining rows of cavities and having a tunnel shape and a substantially cuboid shape (beneath the top panel 30 that forms an outer peripheral portion that further defines a cavity portion for air flow therethrough); a fan 23 mounted adjacent an opening (air flow hole portion) of the heat radiating unit 42 while being aligned with two "inside-facing" openings (louvres 20,22) arranged in the two front and back panels (12,14) to form mutually facing surfaces, or side panels, all of which combine to be operable for allowing air to flow therethrough; and a plurality of other (e.g. second, third etc.) electrical elements that generate heat adjacent the outer peripheral portion defining the cavity portion, including an inverter circuit, a rectifier (inclusive of a rectify diode 25) heat sink 34, transformer 32, inductor 38, stabilizer 42, and plural reactors in the form of coils, windings, or conductors of small resistance (column 2, lines 64-67), which are all disposed within the wind tunnel (abstract; column 1, lines 5-44; column 2, lines 14-67; column 3, lines 1-10; and Figures 1-6). Sigl does not specifically disclose the use of two or more rows of cavity portions that are separated by one or more dividers to separate the cavity portions into individualized compartments.

However, JP 6-97688 discloses a cooling structure of an electronic device, in which the electronic device includes a housing that encloses a plurality of heat-generating electrical elements, and a box body divided (by dividers) into plural rows of cavity portions, each cavity portion of which defines individualized racks/compartments

and includes ventilation ports (23a,23b) with respective fans therein, for providing an air stream flow through the respective cavity portions that define individualized compartments, such that these features are advantageous for providing effective cooling to the electronic device inside a plurality of racks/compartments (abstract; and Figures 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the arc welding power supply housing with a wind tunnel, as disclosed by Sigl, by using the cooling structure of an electronic device with plural rows of cavity portions (including respective fans) that are divided by dividers to define individualized racks/compartments, as taught by JP 6-97688, in order to provide effective cooling to the electronic device inside a plurality of racks/compartments (JP 6-97688; abstract).

4. Claims 1-10, 12-15, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6,888,099) in view of JP 6-97688 (see applicants' IDS dated May 31, 2007).

Schneider discloses a wind tunnel for an arc welding power supply housing, in which the arc welding supply housing 12 includes a plurality of heat radiating electrical components; front and rear panels (16,18), a base panel 19, and a top cover 14; a U-shaped panel 50 (second chamber interior to the housing 12 of Figures 2, 3, 6, and 7) that includes side panels (56,58), a top panel 54, and side openings (64,66), thus forming a cooling wind tunnel 52 (box body) in which a heat radiating unit (first electrical

element in the form of a heat sink assembly 48, which has heat radiating fins (108,110) internal to the box body (wind tunnel 52), in a portion of an outer peripheral portion that defines a cavity portion) is enclosed, with the heat sink assembly 48 defining rows of cavities and having a tunnel shape and a substantially cuboid shape (enclosed by the top panel 54 and side panels (56,58) that form an outer peripheral portion that further defines a cavity portion for air flow therethrough); a fan 124 mounted adjacent an opening (air flow hole portion) of the heat sink assembly 48 while being aligned with two "inside-facing" openings (louvres 20 on the cooling inlet 22 and cooling exit 24 of the housing 12) arranged in the two front and rear panels (16,18) to form mutually facing surfaces, or side panels, all of which combine to be operable for allowing air to flow therethrough; and a plurality of other (e.g. second, third etc.) electrical elements 90 that generate heat adjacent the outer peripheral portion defining the cavity portion, which would include an inverter circuit (abstract; column 1, lines 6-8 and 28-54; column 2, lines 39-67; column 3, lines 1-35 and 64-67; column 4, line 1 through column 8, line 3; and Figures 1-7). Schneider does not specifically disclose the use of two or more rows of cavity portions that are separated by one or more dividers to separate the cavity portions into individualized compartments.

However, JP 6-97688 discloses a cooling structure of an electronic device, in which the electronic device includes a housing that encloses a plurality of heat-generating electrical elements, and a box body divided (by dividers) into plural rows of cavity portions, each cavity portion of which defines individualized racks/compartments and includes ventilation ports (23a,23b) with respective fans therein, for providing an air

stream flow through the respective cavity portions that define individualized compartments, such that these features are advantageous for providing effective cooling to the electronic device inside a plurality of racks/compartments (abstract; and Figures 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the arc welding power supply housing with a wind tunnel, as disclosed by Schneider, by using the cooling structure of an electronic device with plural rows of cavity portions (including respective fans) that are divided by dividers to define individualized racks/compartments, as taught by JP 6-97688, in order to provide effective cooling to the electronic device inside a plurality of racks/compartments (JP 6-97688; abstract).

Response to Arguments

5. The examiner acknowledges the applicants' amendment provided with the request for continued examination received by the USPTO on December 28, 2007. In addition, an Information Disclosure Statement (IDS) received on January 10, 2008 has been considered and initialed, and a copy is provided with this Office Action. Claims 1-10 and 12-19 remain under consideration in the application.

6. Applicants' arguments with respect to claims 1-10 and 12-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns
Primary Examiner
Art Unit 1793

/Kevin P. Kerns/
Primary Examiner, Art Unit 1793
February 23, 2008